

# *Amsaphalaka Marma and the Shoulder Complex: A Comparative Analysis of Ayurvedic and Modern Anatomy*

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## **Abstract**

**Introduction:** *Ayurveda*, one of the oldest medical traditions in the world, offers a holistic view of anatomy and physiology through the *Marma* concept, i.e., vital points in the body that, when injured, may cause serious morbidity or mortality. Of the 107 vital points described in *Ayurveda* as *Marma* Points, *Amsaphalaka Marma* has great significance because of its location in the posterior shoulder area, which is a critical area for the movement, stability, and function of the upper limb. The classical *Ayurvedic* texts consider the *Amsaphalaka Marma* to be primarily responsible for the motor and stabilizing functions of the shoulder joint. Modern anatomical knowledge also considers the scapular complex, rotator cuff muscles, and the neurovascular bundle as critical to the biomechanics of the shoulder joint. **Methods:** A descriptive and comparative analysis method was used. The classical *Ayurvedic* texts, mainly the *Sushruta Samhita* and related texts, were surveyed to gather information about the location, structure, function, and pathological implications of injury to the *Amsaphalaka Marma*. This information was systematically compared with the modern anatomical texts describing the bones, muscles, nerves, vessels, and fascial planes of the shoulder region. Clinical correlations were investigated with the help of modern shoulder pathologies like disorders of the rotator cuff, suprascapular nerve entrapment, adhesive capsulitis, and myofascial pain syndromes. Therapeutic correlations between *Marma Chikitsa* and modern physiotherapy were also investigated. **Results:** *Amsaphalaka Marma* has a very strong anatomical correlation with the posterior scapular area, including the scapular spine, supraspinous and infraspinous fossae, rotator cuff muscles, trapezius, and deltoid. The key neural elements like suprascapular and axillary nerves, along with the major vascular channels, correlate well with the classical concept of *Marma* formation. The symptomatology described in *Ayurvedic* classics like pain, stiffness, weakness, tremors, and limited movements matches well with the modern clinical presentations of shoulder disorders. *Marma* therapeutic procedures like *Mardana* (Application of Pressure), *Abhyanga* (Oil Massage), *Swedana* (Sudation Therapy), *Nasya* (Medicated Nasal Drops), and *Basti* (Medicated Enema) have conceptual and practical similarities to physiotherapeutic procedures like myofascial release, thermotherapy, strengthening exercises, and neuromuscular re-education. **Conclusion:** The remarkable similarity between the *Ayurvedic* definition of *Amsaphalaka Marma* and contemporary anatomical and biomechanical knowledge underlines the extent of ancient anatomical knowledge. An integrated approach between *Marma Chikitsa* and

contemporary physiotherapy provides an effective modality for the management of shoulder pathologies. *Amsaphalaka Marma* is a perfect example of the harmonious integration of traditional Ayurvedic knowledge with contemporary biomedical knowledge.

**Keywords:** *Amsaphalaka Marma*, *Marma Chikitsa*, Shoulder Anatomy, *Sushruta Samhita*, Rotator Cuff.

**Introduction:** Ayurveda is the oldest and most complete system of medicine, which provides a detailed understanding of human anatomy and physiology through the concept of *Marma*. *Marma* points are critical points in the human body where muscles (*Mamsa*), vessels (*Sira*), ligaments and tendons (*Snayu*), bones (*Asthi*), and joints (*Sandhi*) meet. Damage to these points can result in pain, deformity, loss of function, or death. Of the 107 *Marma* points described in ancient texts, the *Amsaphalaka Marma* is of particular importance because it is situated close to the shoulder joint (*Bahu Sandhi*), which is one of the most mobile joints in the human body. The shoulder joint facilitates movements such as abduction, adduction, flexion, extension, and internal and external rotation. The *Ayurvedic* texts describe the regulation of these movements by *Amsaphalaka Marma*, which corresponds remarkably well with the modern anatomical understanding of the scapular and rotator cuff mechanism.

### Ayurvedic Concept of *Marma*:

**Definition of *Marma*:** The word *Marma* is formed from the *Sanskrit* root “Mri”, which means “to kill” or “vital.” *Sushruta* described *Marma* as a spot where the five anatomical structures: muscle (*Mamsa*), vessel (*Sira*), ligament (*Snayu*), bone (*Asthi*), and joint (*Sandhi*), are found together, making it very sensitive and “life-sustaining.” These spots control the flow of *Prana* (Vital Energy).

**Classification of *Marma*:** *Marma* points can be classified according to:

#### 1. Classification Based on Location: -

- *Shira* (Head and Neck Region) – (37 *Marma*) These are very sensitive and crucial because of the presence of vital organs like the brain, eyes, and large blood vessels.
- *Vaksha* (Thoracic Region/Chest) – (9 *Marma*) These are related to the heart and lungs, making them of utmost importance.
- *Udara* (Abdominal Region) – (3 *Marma*) These are related to the large abdominal organs.
- *Prushtha* (Back Region) – (14 *Marma*) These are present along the spinal column and its surroundings.
- *Urdhva Shakha* (Upper Extremities) – (22 *Marma*) These are present in the arms and are of utmost importance for their functionality and strength.
- *Adho Shakha* (Lower Extremities) – (22 *Marma*) These are present in the legs and are of prime importance for their ability to support the body.

This classification based on location helps in understanding the anatomical and clinical significance of *Marma* in different parts of the body.

#### 2. Classification Based on Predominant Tissue: -

*Marma* points can also be classified based on the predominant tissue present at that particular site. Because *Marma* points are junctional points for different structures, one particular tissue is always dominant at that site:

- *Mamsa Marma* – (11 *Marma*) Muscle-dominant points.
- *Sira Marma* – (41 *Marma*) Vein-dominant points.
- *Snayu Marma* – (27 *Marma*) Ligament or tendon-dominant points.
- *Asthi Marma* – (08 *Marma*) Bone-dominant points.
- *Sandhi Marma* – (20 *Marma*) Joint-dominant points.

This is a structural classification, which is significant in surgical and treatment modalities, as it helps to identify the likely affected tissue in trauma.

### 3. Classification According to the Effect of Injury: -

This classification is most significant from a clinical and prognostic point of view. It helps to identify the effect of trauma on a specific *Marma* point:

- *Sadyopranahara Marma*: - (19 *Marma*) Injury to these points leads to immediate death due to severe damage to vital structures.
- *Kalantara Pranahara Marma*: - (33 *Marma*) Injury does not cause instant death but leads to death after some time due to complications.
- *Vishalyaghna Marma*: - (03 *Marma*) In these cases, the person survives as long as a foreign object (such as a weapon) remains lodged in the body. Removal of the object results in death.
- *Vaikalyakara Marma*: - (44 *Marma*) Injury causes permanent deformity, disability, or functional impairment but does not result in death.
- *Rujakara Marma*: - (08 *Marma*) Injury produces intense pain but is not fatal.

#### ***Amsaphalaka Marma in Classical Ayurveda:***

**Etymology and Location:** *Amsa* i.e. shoulder, *Phalaka* i.e. flat plate (scapula), *Marma* i.e. vital point. *Amsaphalaka Marma* is found in the posterior shoulder region, near the scapular spine and its junction with the humerus. The classical texts describe this region as having thick muscles, stabilizing structures, and vital neurovascular components.

**Structural Features:** *Amsaphalaka Marma* is a *Mamsa Marma*, since it is predominantly composed of muscle tissue. But ligaments, bones, nerves, and vessels are also present in good amounts.

**Functions as per Ayurveda:** *Amsaphalaka Marma* is responsible for the following functions:

*Bahu Utkṣepa*–Arm elevation, *Bahu Parivartana*–Arm rotation, *Bahu Prasarana* –Arm extension, *Bala* – Strength of the upper limb, *Sthirata* – Stability of the shoulder joint, Dysfunction of this *Marma* results in pain, weakness, stiffness, tremors, and limited mobility.

#### **Clinical Relevance of *Amsaphalaka Marma* Injury:**

**Classical Symptoms:** Severe pain in the back of the shoulder, Pain referred to the neck or arm, Difficulty in abducting and rotating the arm, Muscle atrophy in chronic cases, Tremors or involuntary movements, Weight and weakness in the arm.

**Dosha Involvement:** *Vata* aggravation leads to pain, stiffness, and tremors. *Pitta* leads to burning and inflammation. *Kapha* causes heaviness and decreased mobility. Hence, the *Marma* treatment aims at regulating these doshas.

#### **Modern Anatomical Correlation:**

**Skeletal Structures:** Scapula (spine, acromion, coracoid process), Supraspinous and infraspinous fossae.

**Muscular Correlation: Rotator cuff:** supraspinatus, infraspinatus, teres minor, subscapularis, **Trapezius:** scapular stabilization, **Deltoid (posterior fibers):** extension and external rotation.

**Neural Correlation: Suprascapular nerve:** abduction and external rotation, **Axillary nerve:** deltoid function and shoulder contour, **Dorsal scapular nerve:** scapular stabilization.

**Vascular and Fascial Correlation:** Suprascapular, dorsal scapular, and circumflex scapular arteries, Myofascial continuity reflecting classical *Marma* definition.

**Biomechanical Relevance:** The scapulohumeral rhythm—where every 3° of shoulder elevation involves 2° from the glenohumeral joint and 1° from scapulothoracic movement -explains the functional importance of *Amsaphalaka Marma* in maintaining coordinated shoulder motion.

**Clinical Correlation with Modern Disorders:** Rotator cuff tendinopathy, Suprascapular nerve entrapment, Adhesive capsulitis, Subacromial bursitis, Scapular dyskinesis, Myofascial pain syndrome.

**Marma Chikitsa (Therapeutic Approach):** - *Marma Chikitsa* for *Amsaphalaka Marma* is aimed at relieving: Frozen shoulder, Cervical spondylosis, Upper back stiffness, Shoulder pain, *Vata* disorders in upper body.

**Technique of Stimulation:** -

Warm medicated oils such as: *Mahanarayana Taila*, *Dhanwantharam Taila*, *Ksheerabala Taila*.

**Method:** -

- Warm oil to be applied on the scapular area.
- Thumb or middle finger to be used.
- Gentle circular pressure to be applied.
- Duration: 1-2 minutes on each side.

Pressure should be moderate — never painful.

**Conclusion:** *Amsaphalaka Marma* is a testament to the deep synthesis of structural anatomy, biomechanics, and functional physiology as known in the ancient *Ayurvedic* tradition. The point of *Amsaphalaka Marma*, located in the posterior scapular area, involves essential elements of muscular, nervous, vascular, and fascial structures necessary for the function of the shoulder joint. The remarkable similarity between the ancient *Ayurvedic* texts and contemporary anatomical knowledge is a testament to the sophisticated level of observational knowledge of the ancient *Ayurvedic* practitioners. The integrated therapeutic modality of *Marma Chikitsa* and contemporary physiotherapy offers a holistic and effective therapeutic strategy for the management of shoulder pathologies. *Amsaphalaka Marma* is a convincing example of the relevance of ancient *Ayurvedic* anatomical knowledge in the contemporary clinical setting.

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